UTILIZATION OF CLOUD COMPUTING FOR PRESENTATION OF CADASTRE DATA

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THE WORLD CADASTRE SUMMIT

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ONLINE CADASTRE INFORMATION SYSTEMS AROUND THE WORLD

- Land Registry
- cadastre.gouv.fr
- flexicadastre
- ferbitas
- mapdata services
2- WEB BASED CADASTRE APPLICATIONS AT TURKEY

- Two core cadastral projects in Turkey are; Land Title and Cadastre Information System (TAKBIS) and Spatial Property System (MEGSIS).

TAKBIS

- TAKBIS is one of the most important e-Government projects of Turkey.
- TAKBIS aims spatial data share and collaboration between associated organizations. It is an integrated objective oriented information system containing multi-functional aspects in terms of geospatial applications. 21 million land title and 5.5 million cadastre file were incorporated into system.
MEGSIS

• MEGSIS is a project aiming gathering CAD based local files in same share pool and matching these CAD files with related tabular files as Land Title information. MEGSIS has three components;
  • 1-Web based application software
  • 2-Internationally standardized web map services
  • 3-E-government web map service

• INTEGRATION RATE >%90 ✔️ WMS AND WFS ANSWER RATE >%90 ✔️

ARE CURRENT SYSTEMS ENOUGH FOR FUTURE DEMANDS???

• Textual and virtual enriched geodatasets. In terms of Big Data etc..
• Real time applications..
• 3D Cadastre (Web Based) + BIM’s..
• More queries and high performance GIS analyses..
• Multifunctional various applications..
CLOUD COMPUTING

• Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction (Mell and Grance, 2011).

CLOUD COMPUTING AT TURKEY

• Cloud Computing and BIG Data Technologies can not be ignored in terms of well developed country targets. We started to realize building cloud based data centers with TUBITAK (Turkish Scientific and Technologic Research Institute) and hopefully finish at recent future (İşik, 2015).
• Fikri İşik, Ministry of Science, Industry and Technology (Turkey) (March, 2015)
SPATIAL CLOUD COMPUTING (CLOUD GIS)

Cloud technology capabilities make it possible to combine data services from various data providers and distribute geospatial processing to other processing service providers (Evangelidis et al., 2014)

- SCC is built on the benefits of CC and the advantages of leveraging the geographic component in data (Xue et al., 2010).
SPATIAL CLOUD COMPUTING & BIG DATA

• Huge and various spatial datasets can be stored and processed with SCC technology. ESRI systems showed that 4.5 billions of spatial data records can be analysed in 10 seconds with cloud computing and big data paradigms.

• In future studies this will open an inspiring door in front of geospatial sciences.

CASE STUDY

• STEPS
  • 1- TRANSFORMING CAD BASED CADASTRE DATASET to GIS FORMAT
  • 2- LOAD GIS DATA to CLOUD
  • 3-CARTOGRAPHIC REVISIONS on CLOUD
  • 4- GIS ANALYSES and QUERIES on CLOUD
  • 5-BUILDING FAST WEB APPLICATONS on CLOUD
  • 6-3D VISUALASING of BUILDINGS with INCLUDING CADASTRE INF.
CADASTRE DATA ON CLOUD

ATTRIBUTE QUERY AND LABELING ON CLOUD
PERFORMING GIS ANALYSES

NETWORK ANALYSE FROM PARCEL TO PARCEL
Building Web Applications

Visualizing 3D Entities for Cadastral Aims and Sharing with Cloud
CONCLUSIONS

- It is clear that Cloud technology brings; cost efficiency, ease of use and scalability to geospatial applications.
- SCC shifts organizations to work in interoperable environments.
- Big Data and Big Analyse problems can be solved with SCC.
- Maybe MEGSIS, ATLAS or other Big Geospatial projects will be arranged with Cloud technology.

THANK YOU FOR LISTENING